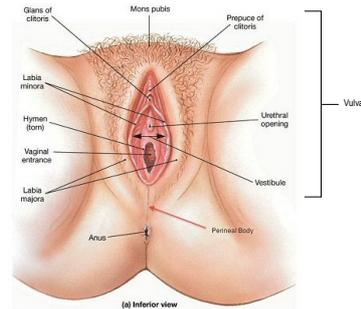
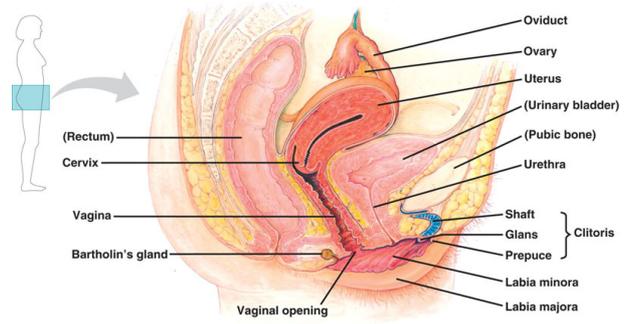
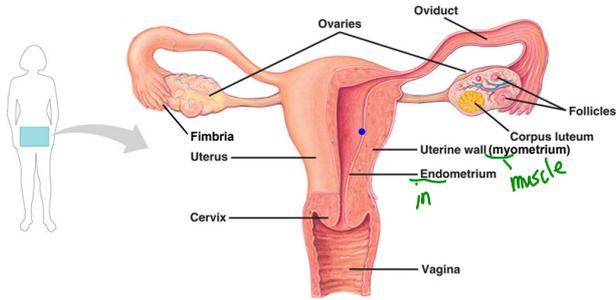


1. It is important that only one sperm fertilize an egg. What would be the result if multiple sperm fertilized a single egg?
2. Explain how each of the following could be described as an adaptation that helps to ensure fertilization:
  - a) seminal fluid
  - b) production of millions of sperm
  - c) cilia lining the walls of the oviducts.
3. Before birth, the male testes descend from the abdominal cavity into the scrotum. Explain why testes that fail to descend cannot produce sperm.



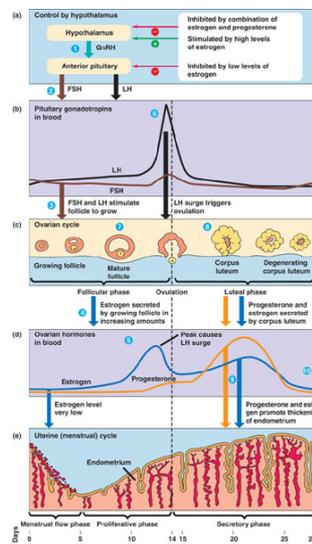
4. All humans start out as females but those with a y chromosome become males during early embryonic development. As we would expect, females and males have analogous structures that have slightly different functions. Which female structure is analogous to the male

- a) testes?
- b) vas deferens?
- c) penis?

5. Most ectopic pregnancies are tubal. Explain why they are dangerous.

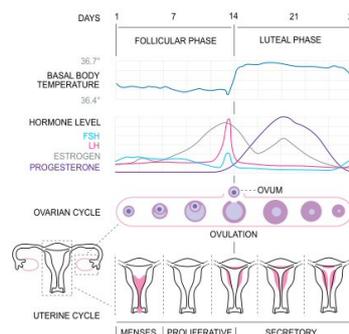
6. Suppose a woman's oviducts were blocked.

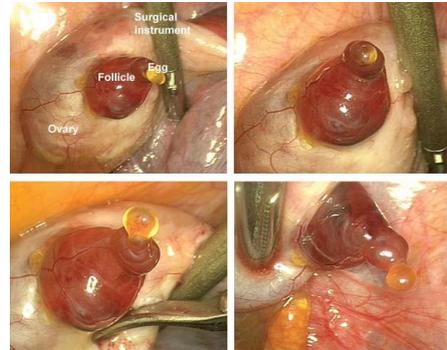
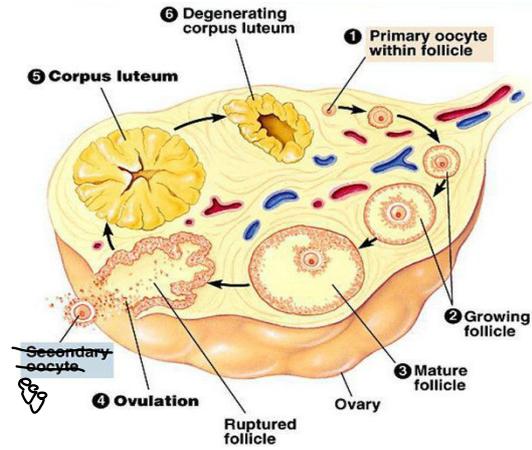
- a) Would she produce ova?
- b) Could she become pregnant?



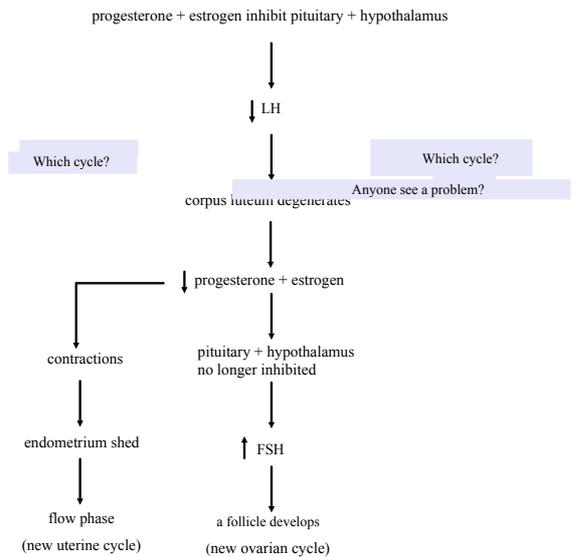
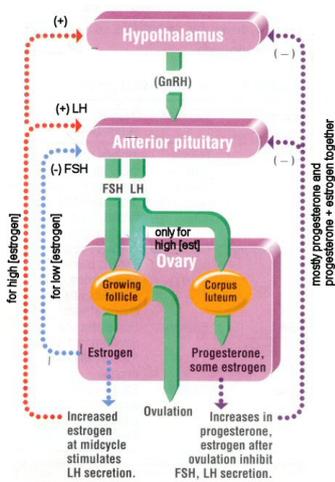
Ovarian cycle

Uterine cycle





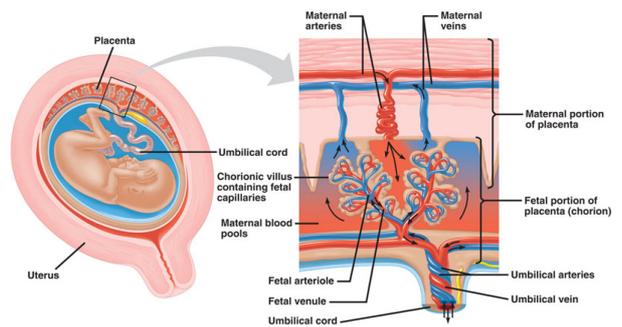
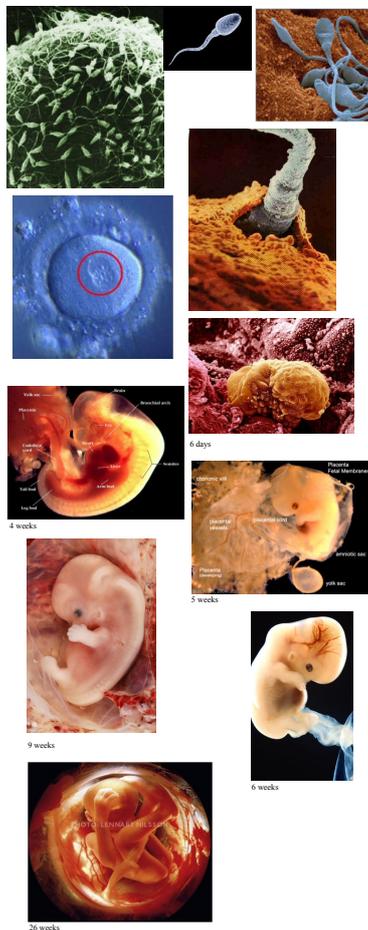
Ovulation

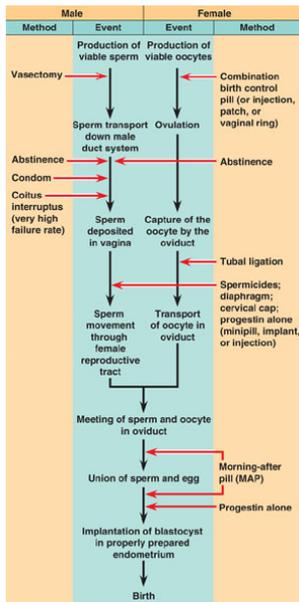
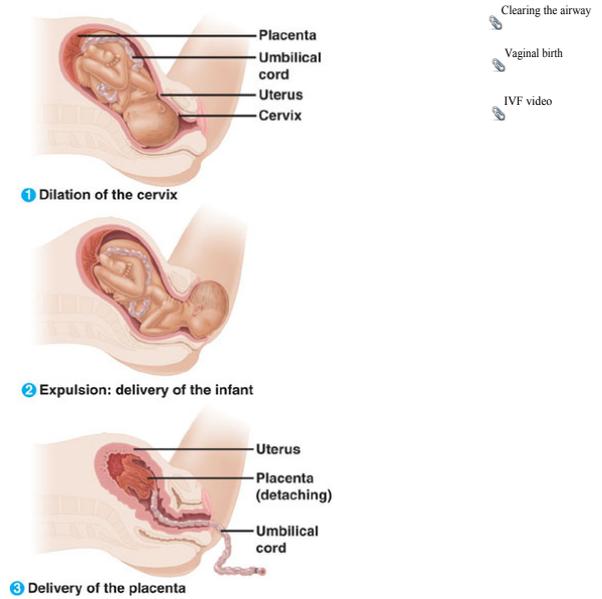
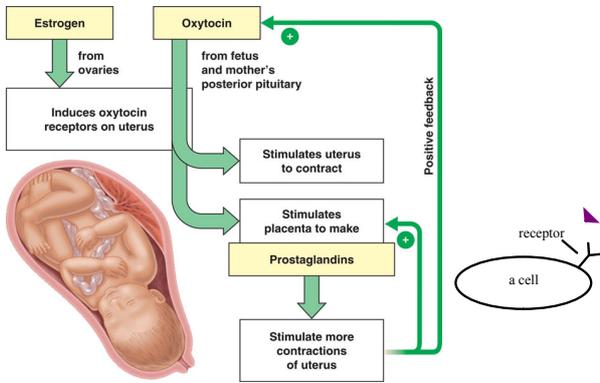


Wait a minute! That means pregnancy is impossible?  
 - embryo produces hCG which acts like LH  
 - hCG is produced for about 3 months

What then?  
 - the placenta starts producing progesterone

7. a) When is the fertile period during the menstrual cycle?  
b) Why is the female only fertile during this period?
8. Why is estrogen at its highest just before ovulation and why is this important?
9. Explain how negative feedback regulates the level of FSH during the menstrual cycle.
10. What hormone changes trigger the beginning of a new menstrual cycle?
11. What would happen if the corpus luteum disintegrated during pregnancy?
12. Explain why it is important that the menstrual cycle is stopped during pregnancy and how hormone interactions achieve this.
13. a) How does the birth control pill prevent pregnancy?  
b) Why would a woman not take birth control pills for the entire 28 days of the menstrual cycle?  
c) On which days of the menstrual cycle would the pill not be taken?





14. Why do you think doctors recommend that women avoid most medications and alcohol during pregnancy?
15. Can a woman who has reached menopause ever become pregnant? Explain.
16. The fetus is unable to breathe oxygen or eat *in utero*. What important substances must pass through the placenta?
17. Sometimes physical trauma to the mother can affect the fetus. How would partial detachment of the placenta from the endometrium affect the fetus?
18. If a woman is past her due date or complications are suspected, her obstetrician might induce labor. How do you think this could be done?

January 2018						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>F</b>	1	2	3	4	5	6
7	8	9 CQ	10 QT	11 QT	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

**What's it called?**

- Trichomoniasis (trich)

**What is it?**

- *Trichomonas vaginalis* (single-celled protozoan parasite)

**How do I get it?**

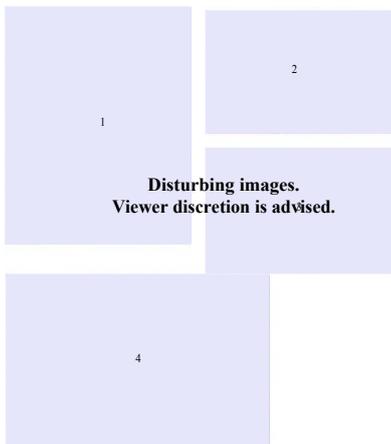
- vagina is the most common site of infection in women, and the urethra is the most common site of infection in men
- parasite is sexually transmitted through penis-to-vagina intercourse or vulva-to-vulva contact with an infected partner
- 2/100

**How do I know?**

- most men do not have signs or symptoms
- some men may temporarily have an irritation inside the penis, mild discharge, or slight burning after urination or ejaculation.
- some women have a frothy, yellow-green vaginal discharge with a strong odor
- the infection also may cause discomfort during intercourse and urination
- in rare cases, lower abdominal pain can occur

**What do I do?**

- usually be cured with the prescription drug, metronidazole, given by mouth in a single dose
- symptoms in infected men may disappear within a few weeks without treatment
- an infected man, even a man who has never had symptoms or whose symptoms have stopped, can continue to infect or re-infect a female partner until he has been treated



**What's it called?**

Chlamydia

**What is it?**

*Chlamydia trachomatis*

**How do I get it?**

- vaginal, anal, or oral sex
- 1/100 among 15-19 year olds

**How do I know?**

- 3/4 of infected women and 1/2 of infected men have no symptoms.
- bacteria infect the cervix and urethra
- abnormal vaginal discharge; burning sensation when urinating.
- lower abdominal pain, low back pain, nausea, fever, pain during intercourse, or bleeding between menstrual periods
- cervical infection can spread to the rectum.
- men with symptoms might have penile discharge or burning sensation when urinating.
- burning and itching around the opening of the penis.
- anal infection can cause rectal pain, discharge, or bleeding.
- Chlamydia can also be found in the throats of women and men having oral sex with an infected partner.
- untreated infection can spread into the uterus or fallopian tubes, causing permanent damage to the fallopian tubes and uterus

**What do I do?**

- easily treated and cured with antibiotics

**What's it called?**

Pubic lice (crabs)

**What is it?**

*Phthirus pubis*

**How do I get it?**

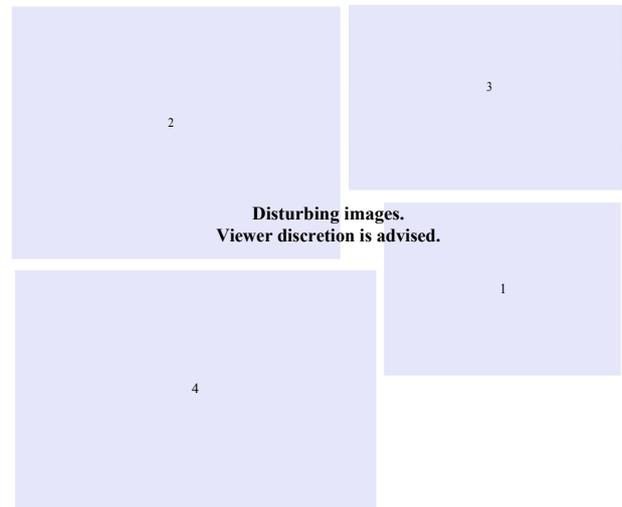
- usually acquired by intimate contact between individuals
- sharing towels, clothing, beds or closets with infected individuals
- can only survive a short time away from the warmth and humidity of the human body

**How do I know?**

- itching in the area covered by pubic hair, often worse at night
- itching may start soon after infection or up to 2 - 4 weeks after contact
- sores in the genital area due to bites and scratching
- small gray-white oval eggs (nits) attached to the hair shafts
- visual identification of adult lice

**What do I do?**

- treatment with a prescription wash containing permethrin
- wash all clothing and bedding in hot water
- ensure anyone with whom you have had sexual contact or shared a bed is also treated
- be checked for other sexually-transmitted infections when lice are discovered



**What's it called?**

- Gonorrhea (the clap)

**What is it?**

- *Neisseria gonorrhoeae*

- grow and multiply easily in the warm, moist areas of the cervix, uterus, and fallopian tubes in women, and in the urethra both women and men
- can also grow in the mouth, throat, eyes, and anus.
- 1/2600 new cases per year

**How do I get it?**

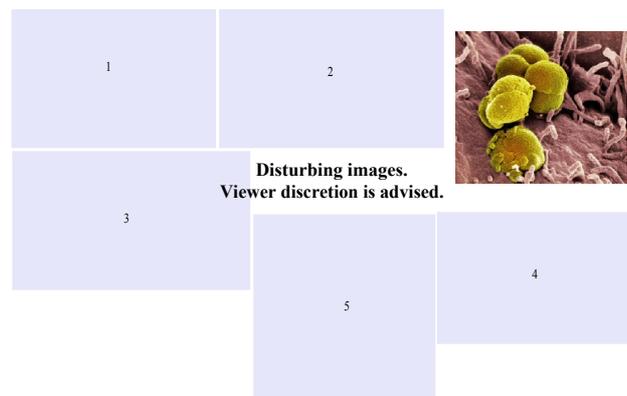
- contact with the penis, vagina, mouth, or anus

**How do I know?**

- many men may have no symptoms
- symptoms and signs include a burning sensation when urinating, or a white, yellow, or green discharge from the penis
- in women, the symptoms of gonorrhea are often mild and can be mistaken for a bladder or vaginal infection
- initial symptoms and signs in women include a painful or burning sensation when urinating, increased vaginal discharge, or vaginal bleeding between periods
- in both men and women, gonorrhea can lead to infertility if left untreated
- can spread to the blood or joints and is life threatening
- symptoms of rectal infection in both men and women may include discharge, anal itching, soreness, bleeding, or painful bowel movements

**What do I do?**

- several antibiotics can successfully cure gonorrhea
- drug-resistant strains are increasing in many areas of the world and successful treatment is becoming more difficult



**What's it called?**

Genital herpes

**What is it?**

- herpes simplex viruses type 1 (HSV-1 causes cold sores) and type 2 (HSV-2 causes genital herpes)

**How do I get it?**

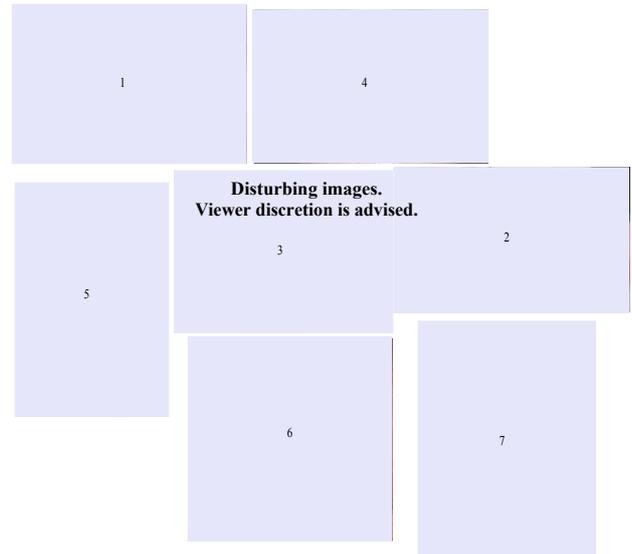
- infection of the genitals can be caused by oral-genital or genital-genital contact  
 - one out of five adolescents and adults, have had genital HSV infection

**How do I know?**

- most people infected with HSV-2 are not aware of their infection  
 - one or more blisters on or around the genitals or rectum. The blisters break, leaving tender ulcers (sores) that may take two to four weeks to heal the first time they occur.  
 - Typically, another outbreak can appear weeks or months after the first, but it almost always is less severe and shorter than the first outbreak.  
 - Although the infection can stay in the body indefinitely, the number of outbreaks tends to decrease over a period of years.  
 - most individuals with HSV-2 infection may never have sores, or they may have very mild signs that they do not even notice or that they mistake for insect bites or another skin condition.

**What do I do?**

- infection and lifelong and incurable  
 - antiviral medications can shorten and prevent outbreaks during the period of time the person takes the medication



**What's it called?**

- Syphilis

**What is it?**

- *Treponema pallidum*

**How do I get it?**

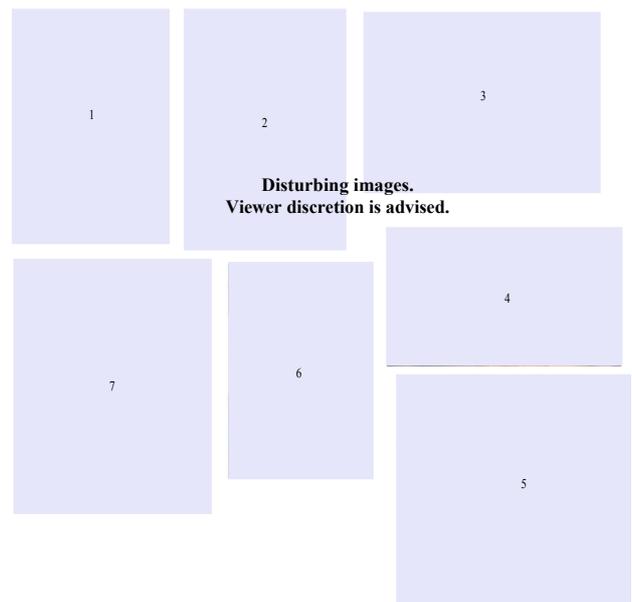
- through direct contact with a syphilis sore  
 - sores occur mainly on the external genitals, vagina, anus, or in the rectum  
 - sores also can occur on the lips and in the mouth  
 - transmission of the organism occurs during vaginal, anal, or oral sex  
 - 1/25 000 new cases per year

**How do I know?**

- many people have no symptoms for years, yet remain at risk for late complications if they are not treated  
 - sores are often unrecognized so most transmission is from persons who are unaware of their infection  
 - **Primary Stage** - usually marked by the appearance of a single or numerous sores at the spot where the bacterium entered the body  
 - sores last 3 to 6 weeks and heal without treatment  
 - **Secondary Stage** - a skin rash appears as rough, red, or reddish brown spots both on the palms of the hands and the bottoms of the feet or with a different appearance on other parts of the body, sometimes resembling rashes caused by other diseases  
 - other symptoms may include fever, swollen lymph glands, sore throat, patchy hair loss, headaches, weight loss, muscle aches, and fatigue  
 - symptoms of secondary syphilis will resolve with or without treatment  
 - **Latent Stage** - may damage the internal organs, including the brain, nerves, eyes, heart, blood vessels, liver, bones, and joints.  
 - signs and symptoms include difficulty coordinating muscle movements, paralysis, numbness, gradual blindness, and dementia  
 - may be serious enough to cause death

**What do I do?**

- easy to cure in its early stages with a single intramuscular injection of penicillin for a person who has had syphilis for less than a year.  
 - additional doses are needed to treat someone who has had syphilis for longer than a year



**What's it called?**

- Genital warts

**What is it?**

- human papillomavirus (HPV)
- over 100 strains
- infect the genital area of men and women including the skin of the penis, vulva (area outside the vagina), or anus, and the linings of the vagina, cervix, or rectum

**How do I get it?**

- genital contact
- at least 50% of sexually active men and women acquire genital HPV infection at some point in their lives

**How do I know?**

- some may lead to cancer of the cervix, vulva, vagina, anus, or penis
- others may cause mild Pap test abnormalities or genital warts
- most people do not know they are infected
- some people get visible genital warts, or have pre-cancerous changes in the cervix, vulva, anus, or penis
- genital warts usually appear as soft, moist, pink, or flesh-colored swellings, usually in the genital area. They can be raised or flat, single or multiple, small or large, and sometimes cauliflower shaped. They can appear on the vulva, in or around the vagina or anus, on the cervix, and on the penis, scrotum, groin, or thigh

**What do I do?**

- genital warts are diagnosed by visual inspection. Visible genital warts can be removed by medications the patient applies, or by treatments performed by a health care provider
- some individuals choose to forego treatment to see if the warts will disappear on their own

